

MigratoryData Client API for Python

Developer's Guide and Reference Manual

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Contents

- 1 Developer's Guide** **1**
 - 1.1 Overview 1
 - 1.2 Creating Python clients for MigratoryData Server 1
 - 1.2.1 Step 1 - Include the library 1
 - 1.2.2 Step 2 - Attach an authorization token 1
 - 1.2.3 Step 3 - Define the cluster of MigratoryData servers where to connect to 2
 - 1.2.4 Step 4 - Create messages 2
 - 1.2.5 Step 5 - Publish messages 2
 - 1.3 Examples 2

- 2 Class Index** **5**
 - 2.1 Class List 5

- 3 Class Documentation** **7**
 - 3.1 MigratoryDataClient Class Reference 7
 - 3.1.1 Detailed Description 7
 - 3.1.2 Member Function Documentation 8
 - 3.1.2.1 setEntitlementToken(String token) 8
 - 3.1.2.2 setServers(List< String > servers) 8
 - 3.1.2.3 publish(MigratoryDataMessage message) 8
 - 3.1.3 Member Data Documentation 9
 - 3.1.3.1 NOTIFY_PUBLISH_OK 9
 - 3.1.3.2 NOTIFY_PUBLISH_FAILED 9
 - 3.1.3.3 NOTIFY_PUBLISH_DENIED 9

3.1.3.4	NOTIFY_PUBLISH_NO_SUBSCRIBER	9
3.1.3.5	NOTIFY_PUBLISH_TIMEOUT	9
3.2	MigratoryDataException Class Reference	10
3.2.1	Detailed Description	10
3.2.2	Member Function Documentation	10
3.2.2.1	getCode()	10
3.2.2.2	getCause()	11
3.2.2.3	getDetail()	11
3.2.3	Member Data Documentation	11
3.2.3.1	E_INVALID_SUBJECT	11
3.2.3.2	E_TRANSPORT_INIT_FAILED	11
3.2.3.3	E_CONNECTION_FAILED	11
3.2.3.4	E_MSG_NULL	11
3.2.3.5	E_MSG_INVALID	12
3.2.3.6	E_CLUSTER_MEMBERS_CONNECTION_FAILED	12
3.2.3.7	E_INVALID_URL_LIST	12
3.2.3.8	E_INVALID_URL	12
3.2.3.9	E_INVALID_PROTOCOL	12
3.2.3.10	E_ENTITLEMENT_TOKEN	12
3.3	MigratoryDataMessage Class Reference	12
3.3.1	Detailed Description	13
3.3.2	Constructor & Destructor Documentation	13
3.3.2.1	MigratoryDataMessage(String subject, String content)	13
3.3.3	Member Function Documentation	13
3.3.3.1	getSubject()	13
3.3.3.2	getContent()	13

Chapter 1

Developer's Guide

This guide includes the following sections:

- [Overview](#)
- [Creating Python clients for MigratoryData Server](#)
- [Examples](#)

1.1 Overview

This client Application Programming Interface (API) library contains all the necessary operation for connecting to a cluster of MigratoryData servers and publishing real-time messages.

Before reading this manual, it is recommended to read *MigratoryData Architecture Guide* ([PDF](#), [HTML](#)).

1.2 Creating Python clients for MigratoryData Server

A typical API usage is as follows:

1.2.1 Step 1 - Include the library

```
sys.path.append("../..lib/")
from migratorydata_client import *
```

1.2.2 Step 2 - Attach an authorization token

Use the method [MigratoryDataClient.setEntitlementToken\(\)](#) to assign an authorization token to the client.

1.2.3 Step 3 - Define the cluster of MigratoryData servers where to connect to

Use the API method [MigratoryDataClient.setServers\(\)](#) to specify a list of one or more MigratoryData servers to which the client will connect to. In fact, the client will connect to only one of the MigratoryData servers in this list. But, defining two or more MigratoryData servers is recommended in order to achieve load balancing and failover.

1.2.4 Step 4 - Create messages

Use the class [MigratoryDataMessage](#) to create messages.

1.2.5 Step 5 - Publish messages

Use the API call [MigratoryDataPublisher.publish\(\)](#) to publish messages.

1.3 Examples

Examples built with this API are available in the folder `examples` of this API package; start with the README file which explains how to run them.

Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

- [MigratoryDataClient](#)
This class implements all the necessary operations for connecting to a cluster of MigratoryData servers and publishing real-time messages 7
- [MigratoryDataException](#)
Define the *error codes* of the API, and their corresponding *error texts* and *error causes* 10
- [MigratoryDataMessage](#)
Represent a message 12

Chapter 3

Class Documentation

3.1 MigratoryDataClient Class Reference

This class implements all the necessary operations for connecting to a cluster of MigratoryData servers and publishing real-time messages.

Public Member Functions

- [MigratoryDataClient](#) ()
Create a [MigratoryDataClient](#) object.
- void [setEntitlementToken](#) (String token)
Assign an authorization token to the client.
- void [setServers](#) (List< String > servers)
Connect to a MigratoryData server in the list provided by the argument.
- String [publish](#) ([MigratoryDataMessage](#) message)
Publish the message provided in argument.

Static Public Attributes

- static final String [NOTIFY_PUBLISH_OK](#) = "NOTIFY_PUBLISH_OK"
Indicate that the client successfully published a message.
- static final String [NOTIFY_PUBLISH_FAILED](#) = "NOTIFY_PUBLISH_FAILED"
Indicate that the client was unable to publish a message.
- static final String [NOTIFY_PUBLISH_DENIED](#) = "NOTIFY_PUBLISH_DENIED"
Indicate that the client was unable to publish a message because it is not allowed by your entitlement rules.
- static final String [NOTIFY_PUBLISH_NO_SUBSCRIBER](#) = "NOTIFY_PUBLISH_NO_SUBSCRIBER"
Indicate that the client was unable to publish a message because there is no client subscribed to the subject of the message.
- static final String [NOTIFY_PUBLISH_TIMEOUT](#) = "NOTIFY_PUBLISH_TIMEOUT"
Indicate that the client timed out when trying to get a response for a message publication.

3.1.1 Detailed Description

This class implements all the necessary operations for connecting to a cluster of MigratoryData servers and publishing real-time messages.

3.1.2 Member Function Documentation

3.1.2.1 void MigratoryDataClient.setEntitlementToken (String *token*)

Assign an authorization token to the client.

For more details about authorization see the parameter `Authorization.Type` in the *MigratoryData Configuration Guide* ([PDF](#), [HTML](#)).

Parameters

<i>token</i>	A string representing an authorization token.
--------------	---

3.1.2.2 void MigratoryDataClient.setServers (List< String > *servers*)

Connect to a MigratoryData server in the list provided by the argument.

Parameters

<i>servers</i>	The addresses of the MigratoryData servers in the cluster.
----------------	--

Exceptions

MigratoryDataException	<p>Exceptions with the following error codes:</p> <ul style="list-style-type: none"> • E_INVALID_URL_LIST • E_CLUSTER_MEMBERS_CONNECTION_FAILED • E_ENTITLEMENT_TOKEN
--	--

3.1.2.3 String MigratoryDataClient.publish (MigratoryDataMessage *message*)

Publish the message provided in argument.

Parameters

<i>message</i>	A MigratoryDataMessage object
----------------	---

Returns

A string representing the response received from the MigratoryData cluster:

- NOTIFY_PUBLISH_OK,
- NOTIFY_PUBLISH_FAILED,
- NOTIFY_PUBLISH_DENIED,
- NOTIFY_PUBLISH_NO_SUBSCRIBER, or
- NOTIFY_PUBLISH_TIMEOUT

Exceptions

MigratoryDataException	<p>Exceptions with the following error codes:</p> <ul style="list-style-type: none"> • E_MSG_NULL • E_MSG_INVALID • E_INVALID_SUBJECT • E_INVALID_PROTOCOL
--	--

3.1.3 Member Data Documentation

3.1.3.1 `final String MigratoryDataClient.NOTIFY_PUBLISH_OK = "NOTIFY_PUBLISH_OK" [static]`

Indicate that the client successfully published a message.

This constant is used to indicate that the publication of a message has succeeded.

3.1.3.2 `final String MigratoryDataClient.NOTIFY_PUBLISH_FAILED = "NOTIFY_PUBLISH_FAILED" [static]`

Indicate that the client was unable to publish a message.

This constant is used to indicate that the publication of a message has failed.

3.1.3.3 `final String MigratoryDataClient.NOTIFY_PUBLISH_DENIED = "NOTIFY_PUBLISH_DENIED" [static]`

Indicate that the client was unable to publish a message because it is not allowed by your entitlement rules.

This constant is used to indicate that the publication of a message has failed. The publication failed because the client – identified with the token defined with the API method [MigratoryDataClient.setEntitlementToken\(\)](#) – is not allowed to publish on the subject of the message.

3.1.3.4 `final String MigratoryDataClient.NOTIFY_PUBLISH_NO_SUBSCRIBER = "NOTIFY_PUBLISH_NO_SUBSCRIBER" [static]`

Indicate that the client was unable to publish a message because there is no client subscribed to the subject of the message.

This constant is used to indicate that the publication of the message has failed. The publication failed because there is no client then subscribed to the subject of the message.

3.1.3.5 `final String MigratoryDataClient.NOTIFY_PUBLISH_TIMEOUT = "NOTIFY_PUBLISH_TIMEOUT" [static]`

Indicate that the client timed out when trying to get a response for a message publication.

This constant is used to indicate that the publication of the message timeout without knowing if the message was published or not.

3.2 MigratoryDataException Class Reference

Define the *error codes* of the API, and their corresponding *error texts* and *error causes*.

Public Member Functions

- int [getCode](#) ()
Get the error code.
- String [getCause](#) ()
Get the error cause.
- String [getDetail](#) ()
Get the error text.

Public Attributes

- int [E_INVALID_SUBJECT](#) = 1
Indicate an invalid subject syntax.
- int [E_TRANSPORT_INIT_FAILED](#) = 2
Indicate a transport initialization failure.
- int [E_CONNECTION_FAILED](#) = 3
Indicate a connection failure.
- int [E_MSG_NULL](#) = 4
Indicate that the message supplied for delivery is null.
- int [E_MSG_INVALID](#) = 5
Indicate that the message supplied for delivery is invalid.
- int [E_CLUSTER_MEMBERS_CONNECTION_FAILED](#) = 6
Indicate that the client failed to connect to all MigratoryData servers in the cluster.
- int [E_INVALID_URL_LIST](#) = 7
Indicate an invalid list of MigratoryData servers.
- int [E_INVALID_URL](#) = 8
Indicate an invalid address for a MigratoryData server.
- int [E_INVALID_PROTOCOL](#) = 9
Indicate an internal error during communication with a MigratoryData server.
- int [E_ENTITLEMENT_TOKEN](#) = 10
Indicate that the entitlement token was not supplied.

3.2.1 Detailed Description

Define the *error codes* of the API, and their corresponding *error texts* and *error causes*.

3.2.2 Member Function Documentation

3.2.2.1 int MigratoryDataException.getCode ()

Get the error code.

Returns

The error code.

3.2.2.2 String MigratoryDataException.getCause ()

Get the error cause.

Returns

The error cause.

3.2.2.3 String MigratoryDataException.getDetail ()

Get the error text.

Returns

The error text.

3.2.3 Member Data Documentation

3.2.3.1 int MigratoryDataException.E_INVALID_SUBJECT = 1

Indicate an invalid subject syntax.

This error code indicates that the subject used to build a new message has an invalid syntax.

The corresponding error cause contains the invalid subject itself.

3.2.3.2 int MigratoryDataException.E_TRANSPORT_INIT_FAILED = 2

Indicate a transport initialization failure.

This error code indicates that the client was not able to establish the transport connection to a MigratoryData server.

The corresponding error cause contains the address of the MigratoryData server to which the client failed to establish the transport connection.

3.2.3.3 int MigratoryDataException.E_CONNECTION_FAILED = 3

Indicate a connection failure.

This error code indicates that the client was not able to connect to a MigratoryData server.

The corresponding error cause contains the address of the MigratoryData server to which the client failed to connect.

3.2.3.4 int MigratoryDataException.E_MSG_NULL = 4

Indicate that the message supplied for delivery is null.

The message supplied for delivery is null

3.2.3.5 int MigratoryDataException.E_MSG_INVALID = 5

Indicate that the message supplied for delivery is invalid.

The message supplied for delivery is invalid.

3.2.3.6 int MigratoryDataException.E_CLUSTER_MEMBERS_CONNECTION_FAILED = 6

Indicate that the client failed to connect to all MigratoryData servers in the cluster.

The client failed to connect to all MigratoryData servers in the cluster.

3.2.3.7 int MigratoryDataException.E_INVALID_URL_LIST = 7

Indicate an invalid list of MigratoryData servers.

The list of MigratoryData servers is incorrectly specified.

3.2.3.8 int MigratoryDataException.E_INVALID_URL = 8

Indicate an invalid address for a MigratoryData server.

The address of a MigratoryData server is incorrectly specified.

3.2.3.9 int MigratoryDataException.E_INVALID_PROTOCOL = 9

Indicate an internal error during communication with a MigratoryData server.

Internal communication error.

3.2.3.10 int MigratoryDataException.E_ENTITLEMENT_TOKEN = 10

Indicate that the entitlement token was not supplied.

Use the method [MigratoryDataClient.setEntitlementToken\(\)](#) to define an entitlement token.

3.3 MigratoryDataMessage Class Reference

Represent a message.

Public Member Functions

- [MigratoryDataMessage](#) (String subject, String content)
Create a [MigratoryDataMessage](#) object.
- String [getSubject](#) ()
Get the subject of the message.
- String [getContent](#) ()
Get the content of the message.

3.3.1 Detailed Description

Represent a message.

3.3.2 Constructor & Destructor Documentation

3.3.2.1 MigratoryDataMessage.MigratoryDataMessage (String subject, String content)

Create a [MigratoryDataMessage](#) object.

Parameters

<i>subject</i>	The subject of the message
<i>content</i>	The content of the message

Exceptions

MigratoryDataException	An exception with the E_INVALID_SUBJECT code
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3.3.3 Member Function Documentation

3.3.3.1 String MigratoryDataMessage.getSubject ()

Get the subject of the message.

Returns

A string representing the subject of the message

3.3.3.2 String MigratoryDataMessage.getContent ()

Get the content of the message.

Returns

A string representing the content of the message

Index

- E_CLUSTER_MEMBERS_CONNECTION_FAILED
 - MigratoryDataException, 12
- E_CONNECTION_FAILED
 - MigratoryDataException, 11
- E_ENTITLEMENT_TOKEN
 - MigratoryDataException, 12
- E_INVALID_PROTOCOL
 - MigratoryDataException, 12
- E_INVALID_SUBJECT
 - MigratoryDataException, 11
- E_INVALID_URL_LIST
 - MigratoryDataException, 12
- E_INVALID_URL
 - MigratoryDataException, 12
- E_MSG_INVALID
 - MigratoryDataException, 11
- E_MSG_NULL
 - MigratoryDataException, 11
- E_TRANSPORT_INIT_FAILED
 - MigratoryDataException, 11
- getCause
 - MigratoryDataException, 10
- getCode
 - MigratoryDataException, 10
- getContent
 - MigratoryDataMessage, 13
- getDetail
 - MigratoryDataException, 11
- getSubject
 - MigratoryDataMessage, 13
- MigratoryDataClient, 7
 - NOTIFY_PUBLISH_DENIED, 9
 - NOTIFY_PUBLISH_FAILED, 9
 - NOTIFY_PUBLISH_NO_SUBSCRIBER, 9
 - NOTIFY_PUBLISH_OK, 9
 - NOTIFY_PUBLISH_TIMEOUT, 9
 - publish, 8
 - setEntitlementToken, 8
 - setServers, 8
- MigratoryDataException, 10
 - E_CLUSTER_MEMBERS_CONNECTION_FAILED, 12
 - E_CONNECTION_FAILED, 11
 - E_ENTITLEMENT_TOKEN, 12
 - E_INVALID_PROTOCOL, 12
 - E_INVALID_SUBJECT, 11
 - E_INVALID_URL_LIST, 12
 - E_INVALID_URL, 12
 - E_MSG_INVALID, 11
 - E_MSG_NULL, 11
 - E_TRANSPORT_INIT_FAILED, 11
- publish
 - MigratoryDataClient, 8
- setEntitlementToken
 - MigratoryDataClient, 8
- setServers
 - MigratoryDataClient, 8
- NOTIFY_PUBLISH_DENIED
 - MigratoryDataClient, 9
- NOTIFY_PUBLISH_FAILED
 - MigratoryDataClient, 9
- NOTIFY_PUBLISH_NO_SUBSCRIBER
 - MigratoryDataClient, 9
- NOTIFY_PUBLISH_OK
 - MigratoryDataClient, 9
- NOTIFY_PUBLISH_TIMEOUT
 - MigratoryDataClient, 9
- MigratoryDataMessage, 12
 - getContent, 13
 - getSubject, 13
- MigratoryDataMessage, 13